

REMARKS

Applicants' undersigned attorney wishes to thank the examiner for the telephone interview held on January 13, 2005 in this application. Applicant agrees with the substance of the interview as set forth in the Interview Summary mailed on January 18, 2005. During the interview, it was agreed that the proposed claims, as amended herein, would be considered upon the filing of an RCE.

Claims 50, 52-71, 74-93, 95-96 and 98 are now pending in this application. An obvious typographical error has been corrected in the specification.

The Examiner has rejected Claims 50-76 and 90-98 under 35 U.S.C. 103(a) as being unpatentable over Ohtomi (U.S. Patent No. 4,894,597) in view of Franklin et al. (U.S. Patent No. 6,628,408).

The Examiner has rejected Claims 77-89 under 35 U.S.C. 103(a) as being unpatentable over Ohtomi (U.S. Patent No. 4,894,597) and Franklin et al. (U.S. Patent No. 6,628,408) in further view of Matsuura et al. (U.S. Patent No. 5,243,265).

The rejections are respectfully traversed in view of the amended claims. In particular, claim 50 has been amended to indicate that the detector head of the distance sensor is positionable *proximate* to the workpiece. Moreover, the detector head has an active surface that is electromagnetically couplable to the workpiece via *at least one of inductance and capacitance for determining a distance* between the detector head and the workpiece by scanning a workpiece surface in order to detect *variations in at least one of inductance and capacitance indicative of burrs*, without any contact between the surfaces. Claim 93 has been amended to indicate that the distance sensor is used *for examining burrs in a bore of a workpiece*. The sensor operates using at least one of *electrical inductance and capacitance* without contacting the workpiece. The sensor is positionable *adjacent* the workpiece and is able to interact with the workpiece *in close proximity thereto*. A distance between the workpiece and the distance sensor indicative of the presence or absence of a burr is determinable from the interaction.

Such structure is neither disclosed nor suggested by the prior art. The sensing performed by Ohtomi uses a complicated laser (91) and optical sensor (97) device with a long focal point. In particular, the focal point is too far away from the optical sensor to enable the sensor to be placed *proximate* the workpiece, as now set forth in Applicants' claims. Moreover, the laser and optical sensor assembly is too large to be *insertable into a bore* as set forth in Applicants' claim 59.

The sensor disclosed by Franklin et al. is used to measure amplitude in an ultrasonic horn. Applicants respectfully submit that at the time the present invention was made, there would have been nothing to motivate a combination of the sensor of Franklin et al. with the structure of Ohtomi, as suggested by the Examiner. Prior to the present invention, neither inductive nor capacitive sensors were used (or, to Applicants' knowledge, even considered for use) to detect burrs in the manner taught by Applicants.

There was a long felt need for a burr-examination sensor device as invented by Applicants. Submitted herewith is a Declaration of the inventors under Rule 132 which establishes that there was a long felt need in the industry for a burr examination device that allows a non-time-consuming examination of burrs and that also allows quantitative information content about burrs to be inferred. As a result of this long felt need, Applicants made the present invention, which has received substantial recognition in the industry. Additional advantages of the invention are also pointed out in the Rule 132 Declaration. As can be seen from the Declaration, Applicants have invented a non-trivial (as well a non-obvious) solution to a difficult problem that was faced by industry. The invention has been warmly received and has received various awards in the industry.

Applicants respectfully submit that such secondary indications of non-obviousness, together with the differences in the claimed subject matter over the art as discussed above and in Applicants' prior Response, compel a conclusion that the present claims are allowable over the prior art of record.



Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of acquiescence to the stated grounds of rejection.

In view of the above, reconsideration and allowance of each of the claims is respectfully requested. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicant's undersigned attorney.

Respectfully submitted,


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